



Installation & Servicing Instructions



Ecogen

Domestic Hot Water Tank Sensor

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1.1 Description

1. These instructions provide details for installing the Ecogen Domestic Hot Water (DHW) Tank Sensor with an Ecogen 24/1.0 and a Megaflo HE unvented domestic hot water cylinder.

The Ecogen DHW Tank Sensor is used to control the domestic hot water cylinder temperature. It also enables the capability for the end user to view and alter the domestic hot water temperature using the Ecogen 24/1.0 user interface, as well as providing a high level of domestic hot water comfort and energy efficiency.

1.2 Important Notes

1. The Ecogen DHW Tank Sensor is only to be installed with a Megaflo HE unvented DHW tank.
2. Ensure all equipment is isolated from the main supply before the installation is started.
3. The Ecogen DHW Tank Sensor can only be used if the distance between the Ecogen 24/1.0 appliance and the domestic hot water is less than 10m.
4. All electrical wiring must be carried out by a competent electrician and must be in accordance with the current IEE (BS 7671) Requirements for Electrical Installation (Wiring Regulations) and any local regulations.
5. **DO NOT INSTALL** the Ecogen DHW Tank Sensor if a sensor pocket and sensor cable retention is not provided.
6. **Unvented domestic hot water cylinder installations:**
 - a) Refer to Megaflo HE instructions for the hydraulic installation.
 - b) The Ecogen 24/1.0 can only be installed with a Heatrae Sadia, Megaflo HE unvented cylinder. **The installation of any other unvented cylinder will contravene the Water Regulations and Building Regulations for installations of un-vented domestic hot water cylinders.**
 - c) To comply with Building Regulations and to prevent the Megaflo HE from over heating, all wiring must be in accordance with the schematics in Section 3.0 Electrical.
7. Ensure that the immersion is switched off while the Ecogen appliance is providing heat.
8. Refer to Ecogen 24/1.0 Installation Instructions for heating system configuration details.

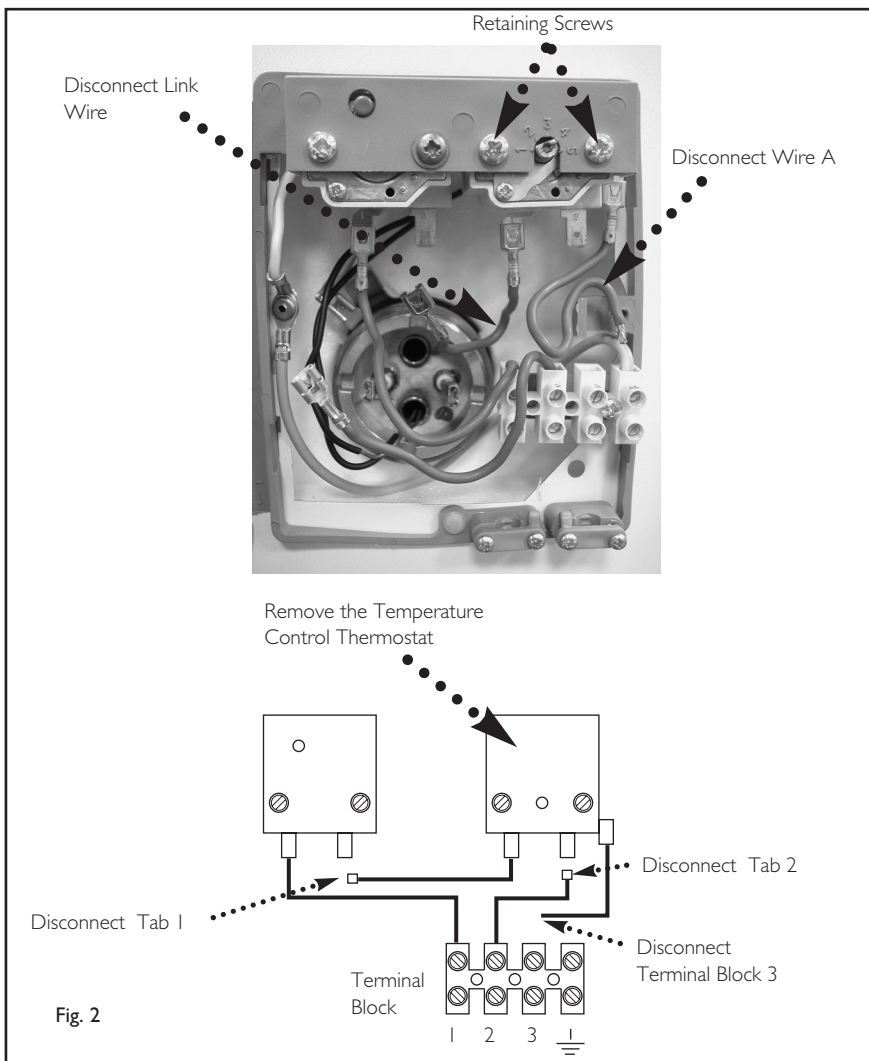
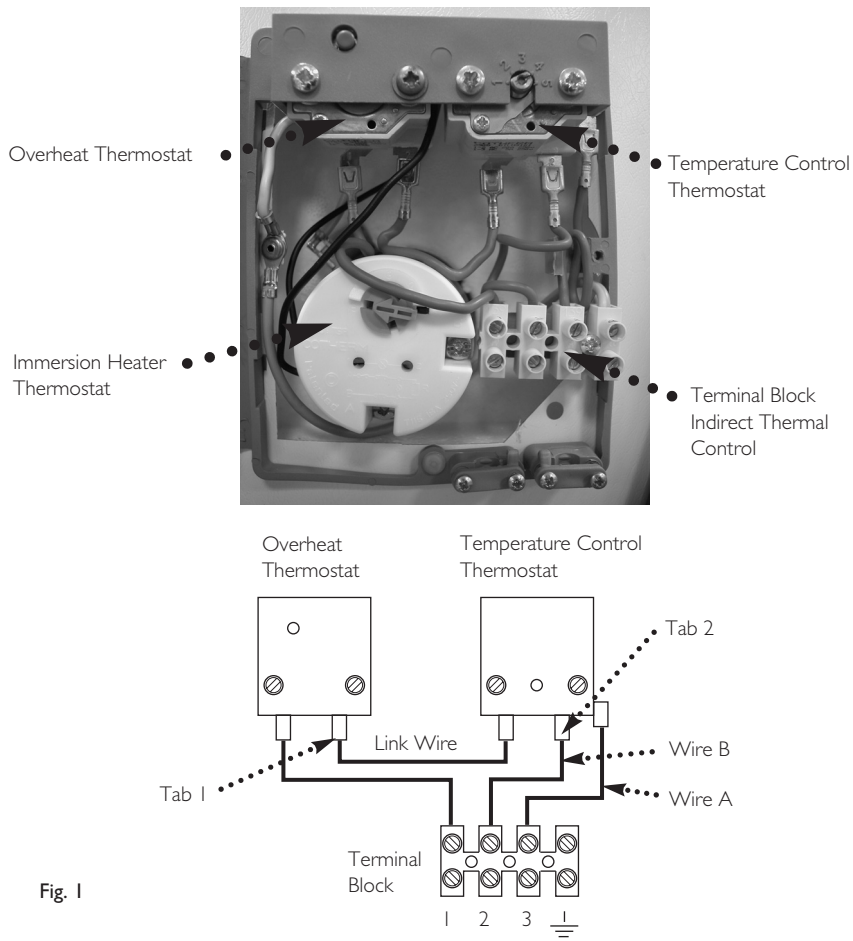
1.3 Codes of Practice

Standard	Scope
BS 7671	I.E.E Wiring Regulations.
BS 60730-2-9	Automatic electrical controls for household and similar use.
BS 5546	Installation of hot water supplies for DHW purposes.
BS 5449	Forced circulation hot water systems.
BS 7593	Treatment of water in domestic hot water central heating systems.

2.0 Electrical Installation

2.1 Megaflo HE Electrical Installation

1. Ensure that all points in Section 1.0 have been observed.
2. Ensure that the Megaflo HE Installation Instructions have been followed and completed.
3. The Megaflo HE cylinder will be supplied with the following controls wiring centre - see Fig. 1.
4. Remove immersion heater thermostat by pulling thermostat off by hand (Fig. 1).
5. Disconnect wire A at terminal block 3 end leaving the other tab end attached to the temperature control thermostat. Disconnect wire B at temperature control thermostat Tab 2 end leaving the other end screwed into terminal block 2 (Fig. 1).
6. There is a link wire between the overheat thermostat and the temperature control thermostat; disconnect the link wire connection tab 1 from the over heat thermostat (Fig. 1).
7. The temperature control thermostat can now be removed by unscrewing the two retaining screws (Fig. 2).



2.0 Electrical Installation

2.1 Megaflo HE Electrical Installation (cont)

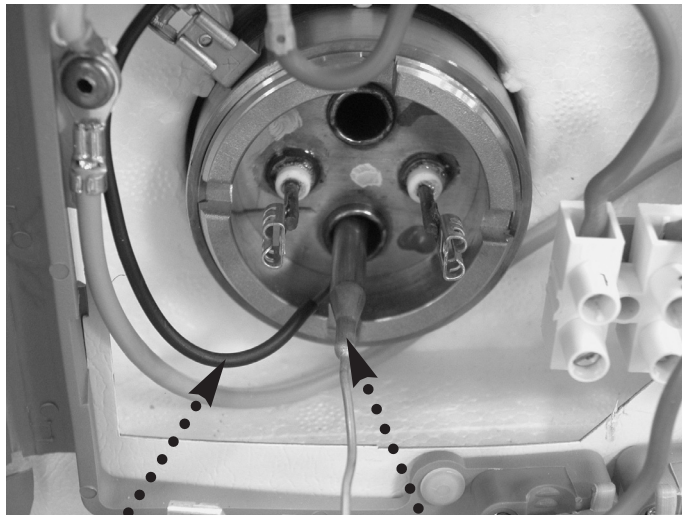
8. The control thermostat phial is then removed from the sensor pocket. **Do not remove the over heat thermostat phial.** (Fig. 3)

9. Wire B Tab 2 is connected to the remaining overheat thermostat tab 2 (Fig. 4).

10. The temperature control thermostat phial is then replaced by a Ecogen DHW Tank Sensor (PN: 720027001). (This is to be connected to the Ecogen 24/1.0 cylinder tank sensor connection - see Section 3.0). Ensure that the Ecogen DHW Tank Sensor is fully inserted into the sensor pocket (approximately 15cm) and is secured using the cable retaining clamp provided (Fig. 4).

11. Re-connect the immersion heater thermostat control (Fig. 5).

12. To comply with Building Regulations and to prevent the Megaflo HE from over heating, all wiring must be in accordance with the schematics in Section 3.0.



Do Not Remove the Overheat Thermostat Phial

Remove the Temperature Control Thermostat Phial

Fig. 3

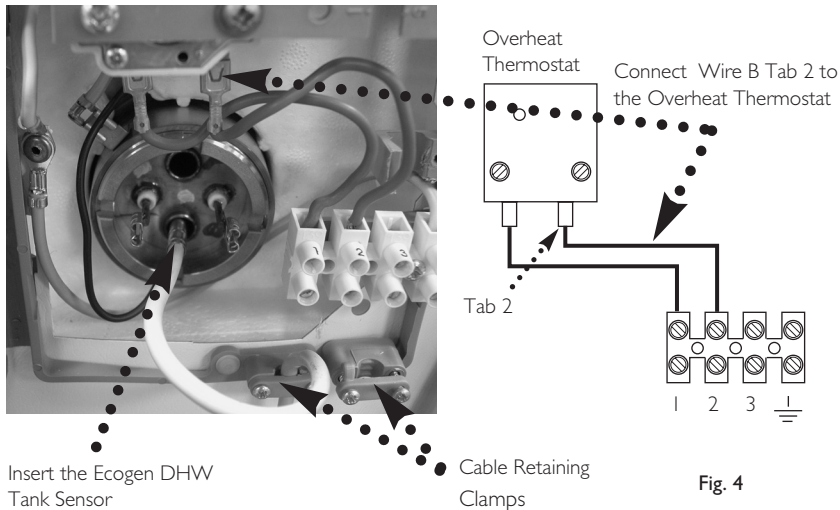
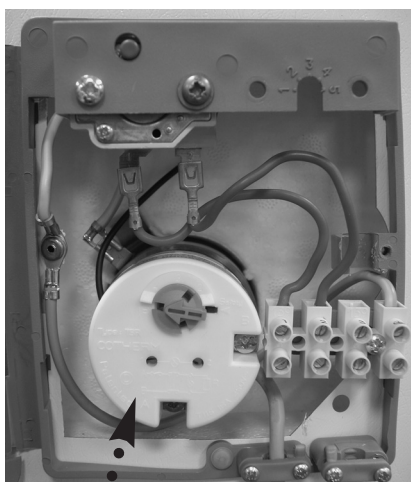


Fig. 4



Reconnect the Immersion Heater Thermostat Control

Fig. 5

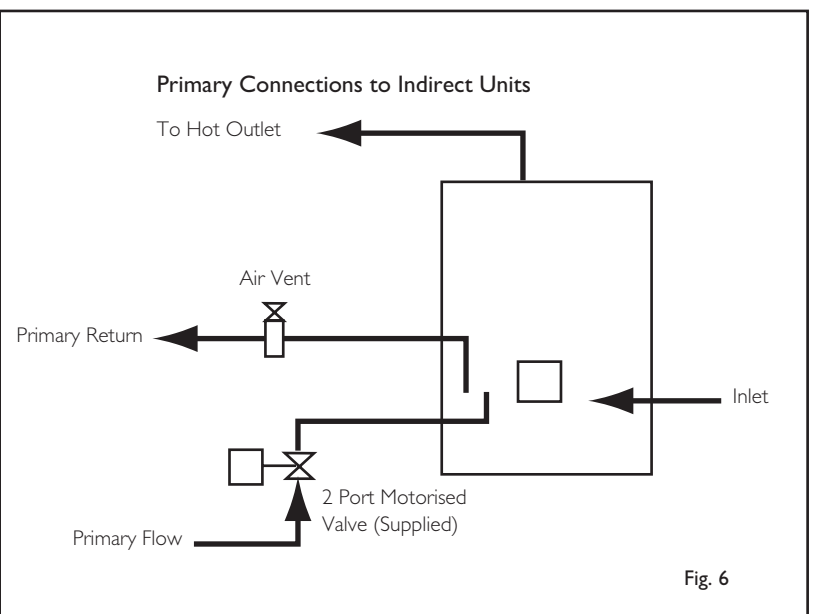
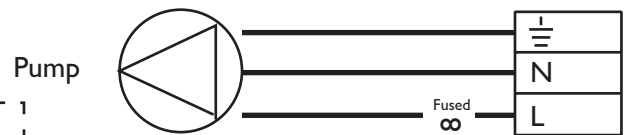
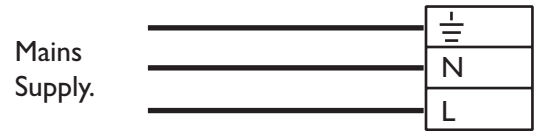


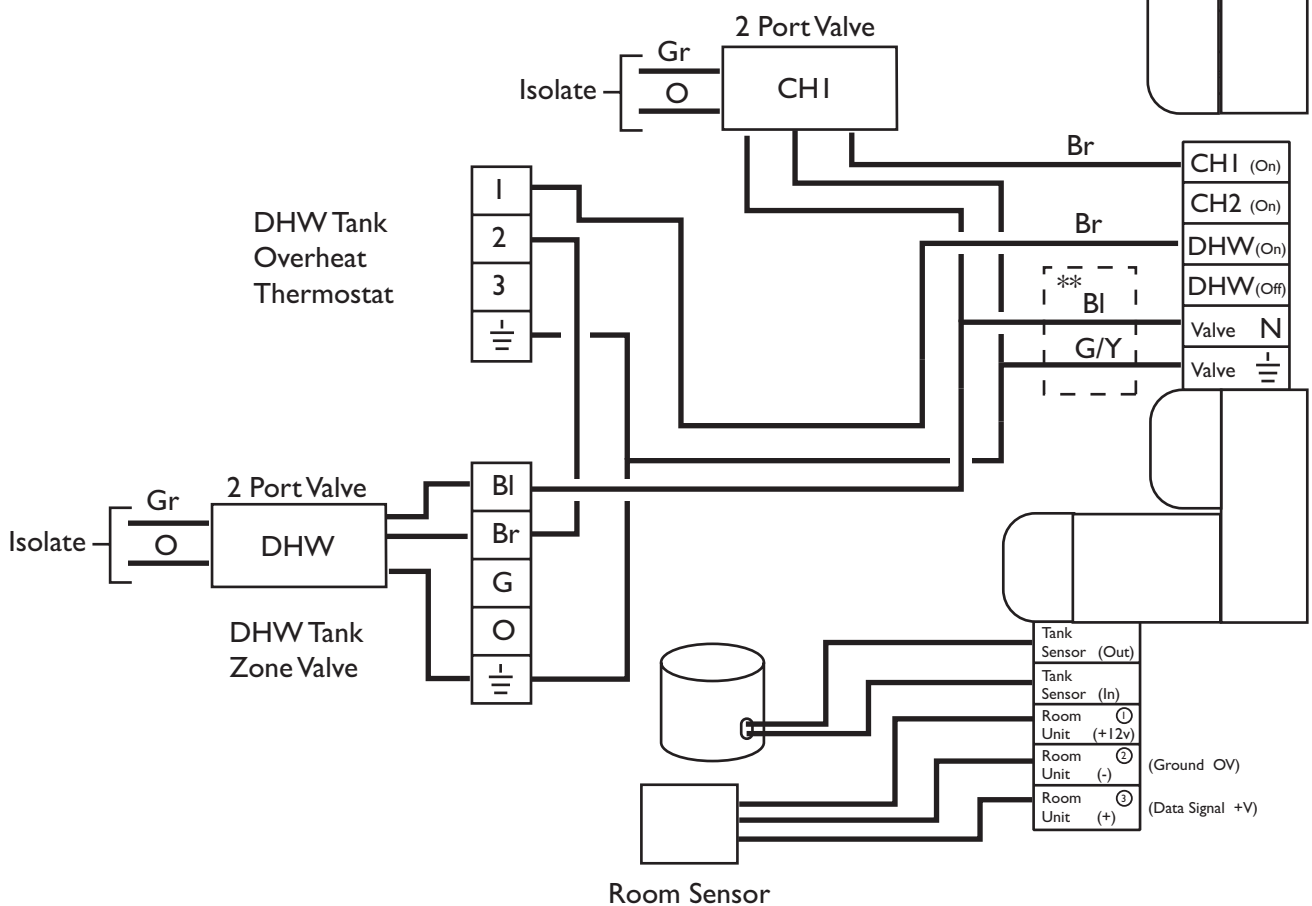
Fig. 6

3.1 S-Plan with Cylinder Sensor (Recommended)

Bl - Blue
Br - Brown
Gr - Grey
O - Orange
G/Y - Green/Yellow



**
If space is limited due to the number of common wires, it may help to create an additional wiring centre to connect common wires to the Ecogen boiler

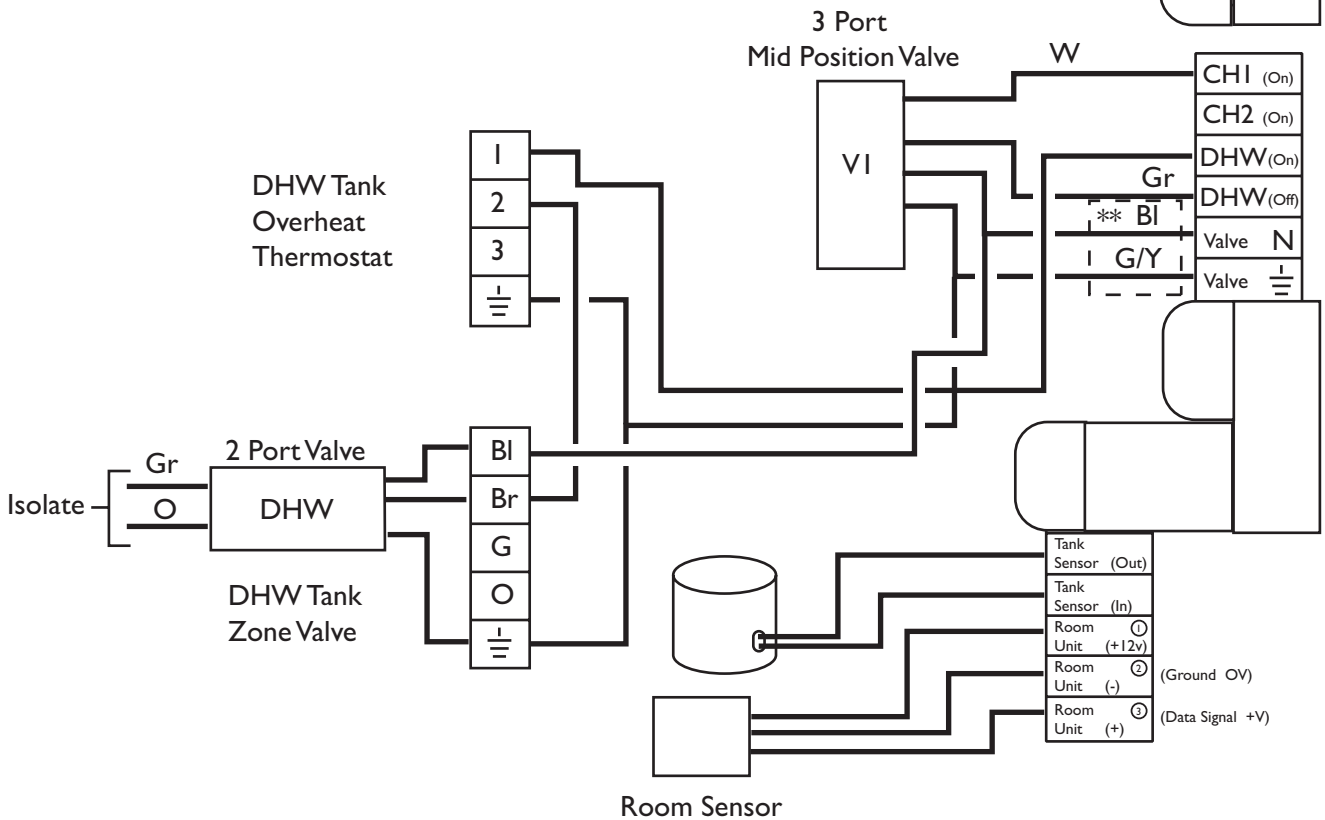
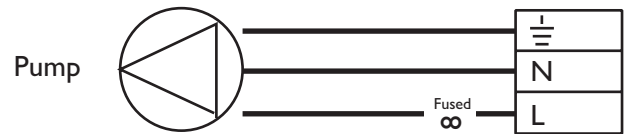


NOTE: Isolate the valve supply (grey) and the ON signal (orange) from the zone valves

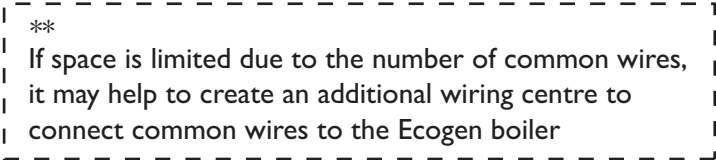
Bl - Blue
 Br - Brown
 Gr - Grey
 O - Orange
 G/Y - Green/Yellow
 W - White

**

If space is limited due to the number of common wires, it may help to create an additional wiring centre to connect common wires to the Ecogen boiler



NOTE: Isolate the valve supply (grey) and the ON signal (orange) from the zone valves

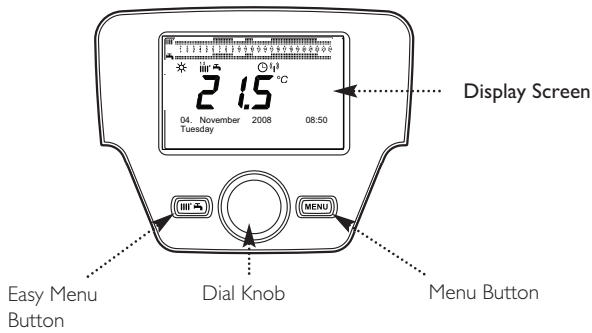


NOTE: Isolate the valve supply (grey) and the ON signal (orange) from the zone valves

4.0 Commissioning

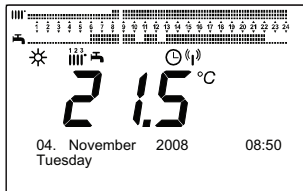
4.1 Commissioning

1. Using the boiler HMI or the Room unit.



STEP 1

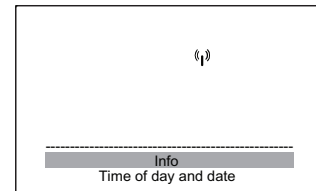
The basic display is shown.
If the basic display is not showing,
press the MENU button until the
basic display is shown



Press the MENU button.

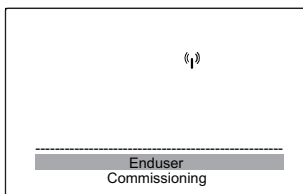


STEP 2



STEP 3

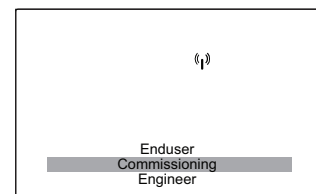
Press and hold the "Easy Menu"
and "Menu" buttons until the
user level options appear.



Turn the Dial Knob clockwise to
highlight Commissioning.

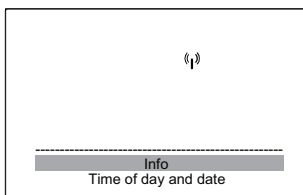


STEP 4



STEP 5

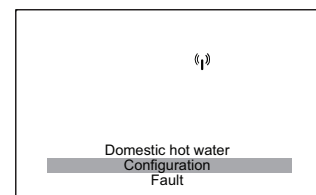
Press the Dial Knob to select .



Turn the Dial Knob clockwise to
highlight Configuration.

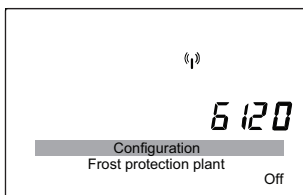


STEP 6



STEP 7

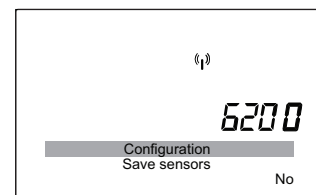
Press the Dial Knob to select .



Turn the Dial Knob clockwise to
highlight Save Sensors.

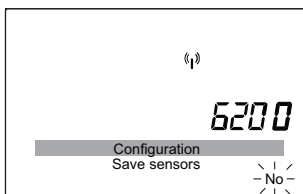


STEP 8



STEP 9

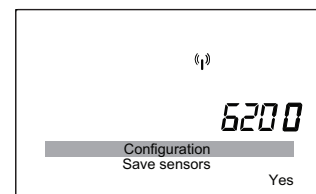
Press the Dial Knob to select .



Turn the Dial Knob clockwise to
highlight Yes.

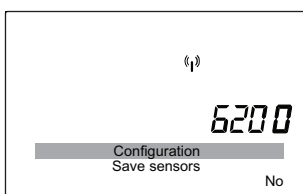


STEP 10



STEP 11

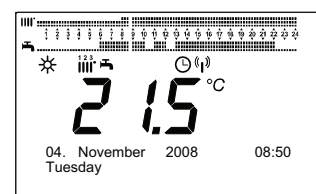
Press the Dial Knob to select.
The selection Yes will change
back to NO. This means that the
Ecogen DHW Tank Sensor has
been saved.



Press the MENU button for
the basic display to be shown.



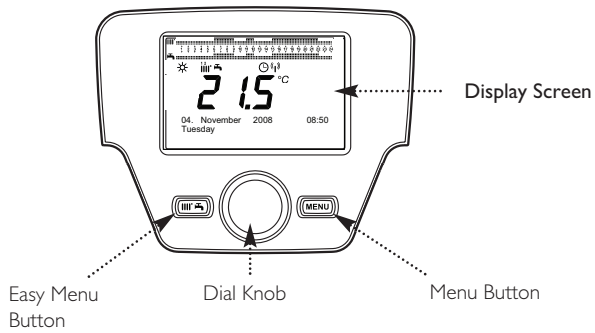
STEP 12



4.0 Commissioning

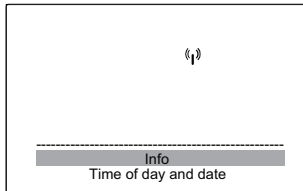
4.1 Commissioning Ccont)

1. Using the boiler HMI or the Room unit.



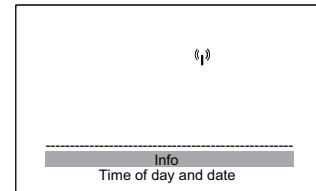
STEP 13

To check that the Ecogen DHW Tank Sensor is working correctly, press the MENU button.



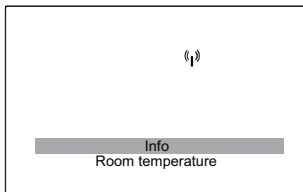
STEP 14

Turn the Dial Knob clockwise to highlight Info.



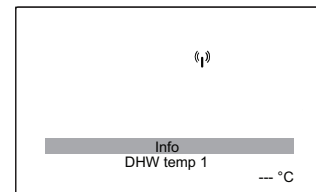
STEP 15

Press the Dial Knob to select .

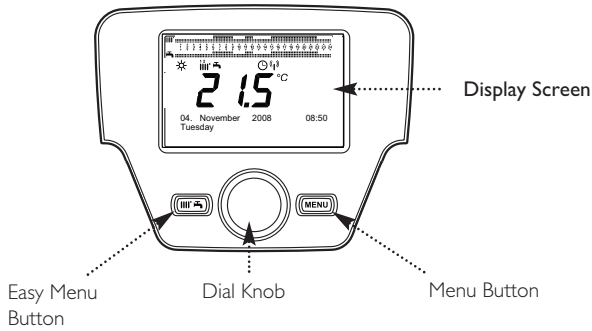


STEP 16

Turn the Dial Knob clockwise to highlight DHW I Temp. If no temperature can be seen, check the wiring is secure and correct to the instructions. Then repeat again from Step 1.



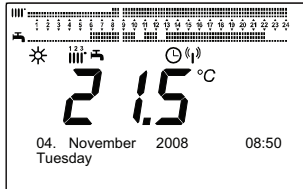
5.0 Functions



To select and configure the function for Periodically operation

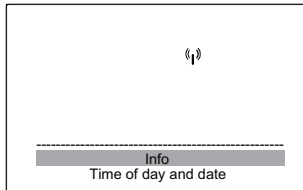
STEP 1a

The basic display is shown.
If the basic display is not showing,
press the MENU button until the
basic display is shown



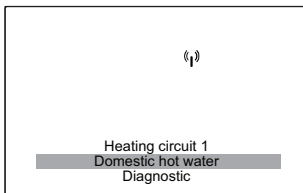
STEP 2a

Press the MENU button.



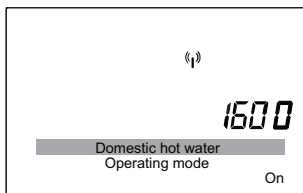
STEP 3a

Turn the Dial Knob clockwise to
highlight Domestic hot water.



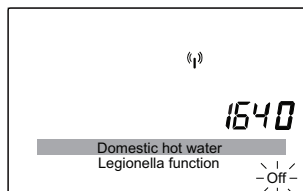
STEP 4a

Press the Dial Knob to select.



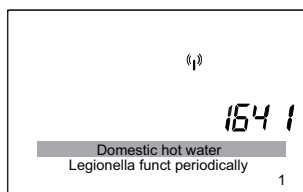
STEP 6a

Press the Dial Knob so the
selection starts to flash.



STEP 9a

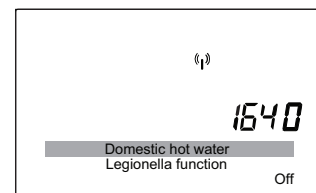
Turn the Dial Knob clockwise to
show Legionella funct periodically.



Turn the Dial Knob clockwise to
show Legionella function. The
default is Off.



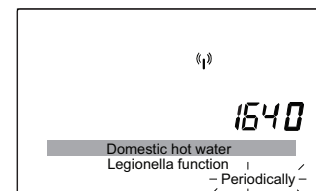
STEP 5a



Turn the Dial Knob clockwise to
select Periodically. Press knob to
confirm.



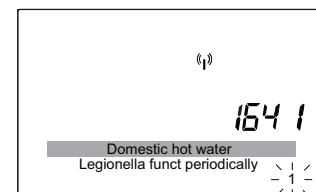
STEP 7a



Press the Dial Knob so the
selection starts to flash.



STEP 10a



1. As a result of successfully installing the Ecogen DHW Tank Sensor, the user will have the ability to change the domestic hot water temperature set point and view the current domestic hot water temperature via the boiler HMI or the Room Unit. Two additional functions will also be available:

Legionella function See section 5.1.

DHW Eco function See section 5.2.

5.1 Legionella function

1. Legionella is a function that helps to prevent bacteria building up in your domestic hot water tank. The legionella function heats up your domestic hot water to 65°C for 30 minutes at pre-define intervals.

2. There are three options for legionella:

Off **Periodically** **Fixed Weekday**

Off - Legionella is deactivated.

Periodically - This gives the user the option to select how often and at what time legionella is repeated during the week. If Periodically is selected two parameters are used to configure this selection:

Legionella function period (Parameter 1641) (Default = 1, therefore legionella activated every day).

Legionella time (Parameter 1644) (Default = 08:00).

Periodically example:

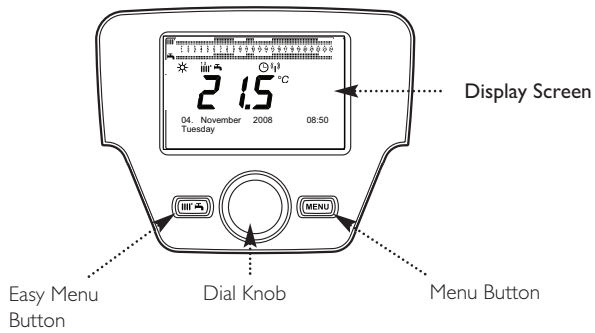
If the user selects Legionella function period = 3 and

If the user selects Legionella time = 12:00

Legionella is activated at 12:00 every 3 days.

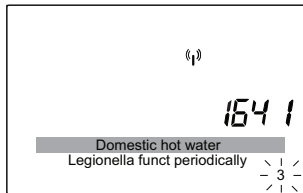
5.0 Functions

5.1 Legionella function (cont)



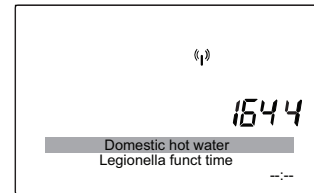
STEP 11a

Turn the Dial Knob clockwise to select the number of days between each legionella operation. Press knob to confirm.



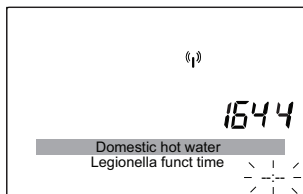
STEP 12a

Turn the Dial Knob clockwise to select Legionella function time.



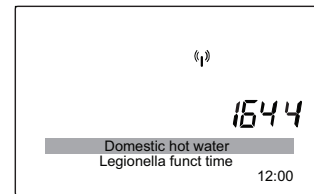
STEP 13a

Press the Dial Knob so the value starts to flash.



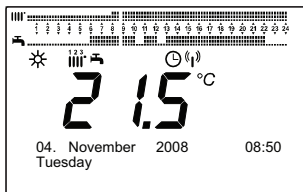
STEP 14a

Turn the Dial Knob clockwise to choose a time at which Legionella will start. Press knob to confirm.



STEP 15a

Press the MENU button to return to the normal operating screen.



5.0 Functions

5.1 Legionella function (cont)

Fixed Weekday - This gives the user the option to select the particular day and at what time legionella is activated during the chosen day. If Fixed Weekday is selected two parameters are used to configure this selection:

Legionella function weekday (Parameter 1642) (Default = Monday).

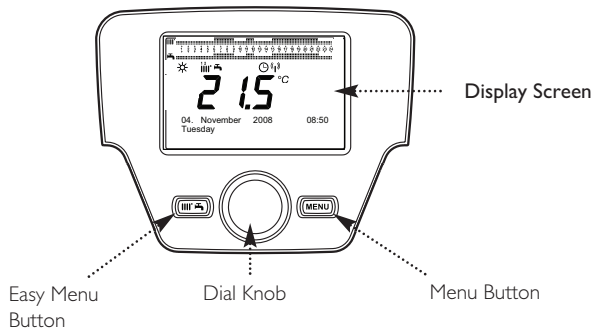
Legionella time (Parameter 1644) (Default = 08:00).

Fixed Weekday example:

If the user selects Legionella day = Wednesday and

If the user selects Legionella time = 12:00

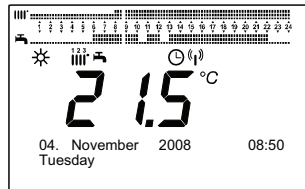
Legionella is activated at 12:00 every Wednesday.



To select and configure the function for Fixed Weekday operation

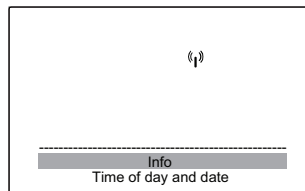
STEP 1b

The basic display is shown.
If the basic display is not showing,
press the MENU button until the
basic display is shown



STEP 2b

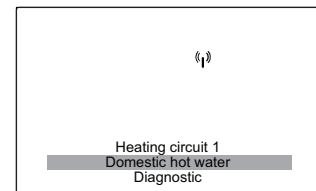
Press the MENU button.



Turn the Dial Knob clockwise to
highlight Domestic hot water.

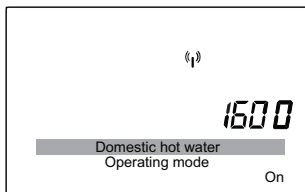


STEP 3b



STEP 4b

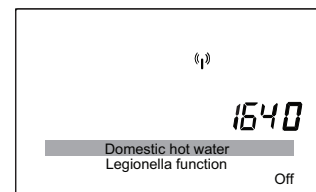
Press the Dial Knob to select.



Turn the Dial Knob clockwise to
show Legionella function. The
default is Off.

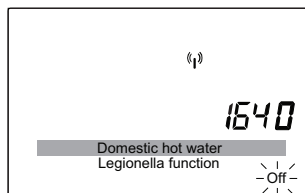


STEP 5b



STEP 6b

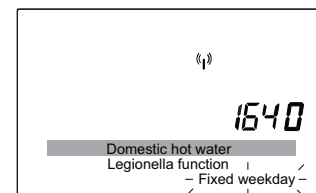
Press the Dial Knob so the
selection starts to flash.



Turn the Dial Knob clockwise to
select Fixed weekday. Press knob
to confirm.

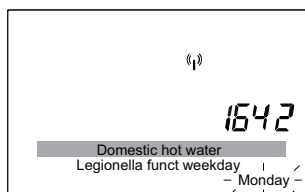


STEP 7b



STEP 9b

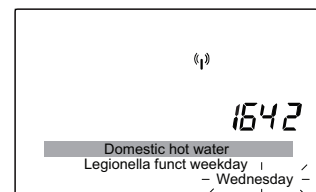
Turn the Dial Knob clockwise to
show Legionella funct weekday.
Press the Dial Knob so the value
starts to flash.



Turn the Dial Knob clockwise to
select the day when legionella will
be activated. Press knob to
confirm.

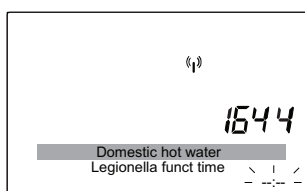


STEP 10b



STEP 11b

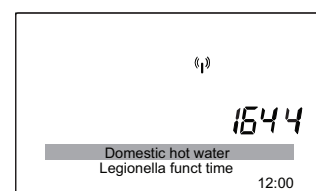
Turn the Dial Knob clockwise to
select legionella function time.
Press knob to confirm and to
start the value flashing.



Turn the Dial Knob clockwise to
choose a time at which Legionella
will start. Press knob to confirm.

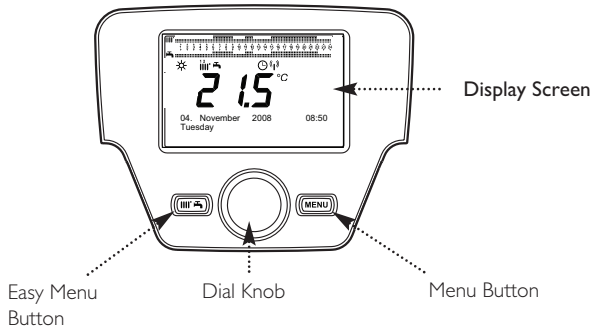


STEP 12b



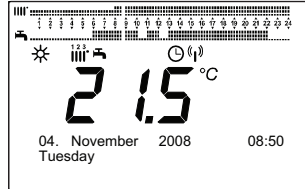
5.0 Functions

5.1 Legionella function (cont)



STEP 13b

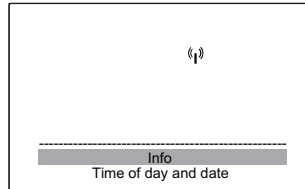
Press the MENU button to return to the normal operating screen.



To use the DHW Eco function; from the normal operating screen

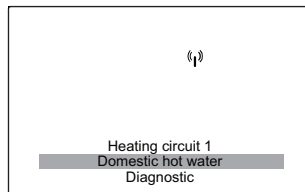
STEP 1c

Press the MENU button.



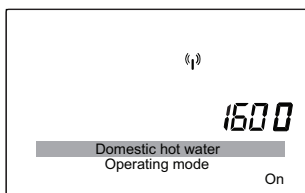
STEP 2c

Turn the Dial Knob clockwise to highlight Domestic hot water.



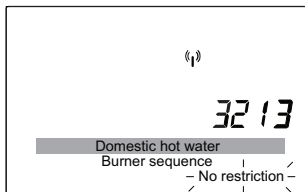
STEP 3c

Press the Dial Knob to select.



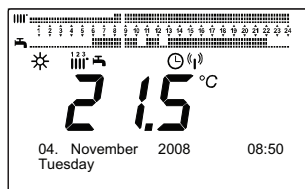
STEP 5c

Press the Dial Knob so the selection starts to flash.



STEP 7c

Press the MENU button to return to the normal operating screen.



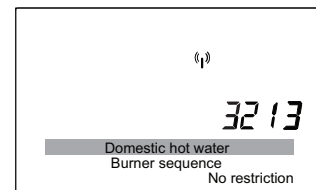
5.2 DHW Eco function

CAUTION – This function will increase the recovery time of the domestic hot water cylinder temperature. Users should adjust the domestic hot water time switch program to start the boiler sooner to allow sufficient time for the water to be heated to the desired water temperature.

1. The DHW Eco function prevents the 2nd burner from starting for domestic hot water demands only. This means that during a domestic hot water demand only the Stirling engine burner is used, hence the recovery time is longer but more electrical power is generated.

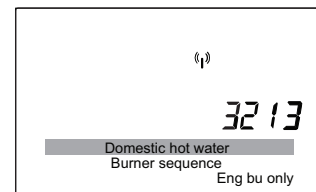
STEP 4c

Turn the Dial Knob clockwise to show Burner sequence. The default setting is No restriction.



STEP 6c

Turn the Dial Knob clockwise to select Eng bu only. Press the knob to confirm.



6.0 Fault Finding

6.1 Fault Finding

1. If an error "50: DHW Sensor 1" is displayed check the Ecogen DHW Tank Sensor wiring is secure and correct to the instructions.
 2. If the domestic hot water is suspected to be too hot check that the sensor has been securely fitted into the cylinder sensor pocket provided. If an immersion heater is connected to the cylinder, ensure that it is switched off while the Ecogen boiler is providing heat to the Megaflo HE cylinder. Alternatively you could try changing the day or time when the legionella function is run. So that you are not using the hot water immediately after the legionella has reached 65°C.
 3. If the domestic hot water is not reaching the desired temperature, check that the Ecogen DHW Tank Sensor has been connected to the "Tank Sensor" connection terminals in the Ecogen appliance electrical installation area. Also check that the DHW Eco function has not been set to "Eng bu only". You may be able to improve this problem by setting the domestic hot water time program to start sooner. Alternatively deactivate the DHW Eco function by selecting "No restriction" in the "Burner Sequence" menu (see section 5.2).
 4. Refer to the Ecogen 24/1.0 and the Megaflo HE installation and service instructions for more fault finding help.
 5. If problems persist call Heateam.
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All descriptions and illustrations provided in this leaflet have been carefully prepared but we reserve the right to make changes and improvements in our products which may affect the accuracy of the information contained in this leaflet. All goods are sold subject to our standard Conditions of Sale which are available on request.

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